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reducing the oxidized slag in a reducing atmosphere from about 700°C to about 950°C
for at least 5 minutes to convert a major portion of the iron in the Fe(III) state to the Fe(II)
state.--

--6. (Thrice Amended) A method of beneficiating titania slag to increase the TiO₂
content thereof to at least 90% by weight comprising the steps of:
sizing the titania slag to a particle size from 75 to 850 µm;
oxidizing the sized slag particles in an oxidizing atmosphere at a temperature from about
700°C to below about 900°C for at least 30 minutes;

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stabilizing an anatase phase in the slag, causing the iron present in the slag to concentrate
at the exposed surfaces of the slag particles, causing a major portion of the iron in the Fe(II) state
to convert to the Fe(III) state, and causing the titanium in the Ti(III) state to be converted to the
Ti(IV) state;

reducing the oxidized slag in a reducing atmosphere from about 700°C to about 950°C
for at least 5 minutes to convert a major portion of the iron in the Fe(III) state to the Fe(II) state;
and

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leaching the reduced slag with acid to obtain a beneficiated slag product with an
increased TiO₂ content and leach liquor containing the leached impurities.--

--20. (Amended) The method of claim 1 or 6 wherein substantially none of the titanium
in the Ti(IV) state is converted to the Ti(III) state during reduction. --

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Please add claim 21 as follows:

-- 21. (New) The method of claim 1 or 6, wherein the titania slag comprises ilmenite
beach sand. --